

21st CENTURY GOAL
for
BRIDGES

GOAL: ASSURE A SAFE AND SERVICEABLE BRIDGE INFRASTRUCTURE FOR ALL PUBLIC HIGHWAY FACILITIES IN NEW YORK STATE AT THE LOWEST PRACTICAL LIFE-CYCLE COST.

OBJECTIVES:

1. Safety: Provide mitigation measures to assure that all bridges are safe for their intended use.
2. Preservation: Assure an acceptable bridge infrastructure condition through all appropriate life-cycle actions.
3. Serviceability: Address bridge structural and geometric features that compromise the efficient movement of goods and people, appropriate to the function of the highway facility.

PERFORMANCE MEASURES:

1. SAFETY

Identify and address all critical bridge safety needs, related to:

- a. Vulnerability
- b. Structural Condition
- c. Flags

2. PRESERVATION

- a. Accomplish 100% of qualifying cyclical preservation tasks.
- b. Improve average Bridge Condition Index, consistent with Hierarchy-Based Concept (following)
- c. Improve average Maintenance Condition Index.

3. SERVICEABILITY

- a. Load and clearance postings do not compromise the function of the facility.
- b. No load or clearance postings on NHS and other specifically identified corridors or routes.
- c. Bridge traffic level of service is appropriate to planned function of facility.

HIERARCHY - BASED BRIDGE GOAL

| FUNCTIONAL CLASSIFICATION | FUTURE GOAL % NON-DEFICIENT | | |
|------------------------------|--------------------------------|------------------|------------------|
| | STATE BRIDGES | LOCAL BRIDGES | TOTAL BRIDGES |
| NHS | 90% | 90% | 90% |
| MINOR ARTERIAL | 80% | 80% | 80% |
| COLLECTOR | 80% | 80% | 80% |
| LOCAL | 70% | 70% | 70% |
| TOTAL | 84.2% | 74.5% | 79.1% |

GOAL TARGET: YEAR 2015

21 st CENTURY GOAL
for
STATE PAVEMENT

GOAL: MAINTAIN A BALANCED PROGRAM OF PREVENTIVE MAINTENANCE AND REHABILITATIVE PROJECTS WHICH MINIMIZES THE USER COST (OPERATING AND CONSTRUCTION DELAY) ASSOCIATED WITH THE MOVEMENT OF PEOPLE AND GOODS BY MAXIMIZING THE LONG TERM SERVICEABILITY OF THE STATE'S PAVEMENT STRUCTURES. MAINTAIN THE SYSTEM SUCH THAT AT LEAST 60% OF TOTAL LANE MILEAGE IS IN GOOD TO EXCELLENT CONDITION. GIVE PRIORITY TO PROJECTS ON THE NATIONAL HIGHWAY SYSTEM (NHS) AND OTHER CORRIDORS WITH HIGH COMMERCIAL TRAFFIC VOLUMES OR POTENTIAL FOR ECONOMIC GROWTH.

**PERFORMANCE
MEASURES:**

Percentage of preventive maintenance actions (paving and non-paving) to total actions.

Percentage of overall lane miles with surface ratings of 7 or greater.

For the NHS, an average surface rating of 7.0.

The average pavement treatment life, presently at 10.8 years, increasing to 12.0 years over the life of the 97/98-01/02 program period, 13.0 years over the 98/99-02/03 period, and 14.0 years over the 99/00-03/04 period and thereafter.

**PROJECT SELECTION
CRITERIA:
(IN PRIORITY ORDER)**

1. Promote safety by preventing structural failure and repairing critical damage.
2. Minimize life cycle costs through the appropriate application of preventive maintenance strategies.
3. All other factors being equal, give priority to projects on the NHS or other corridors with high volumes, particularly high commercial truck traffic.

21st CENTURY GOAL
for
SAFETY

GOAL: ENSURE THAT HIGHWAY SAFETY IS CONSIDERED IN THE DEVELOPMENT AND IMPLEMENTATION OF ALL DEPARTMENT PROGRAMS AND PROJECTS FOR THE PURPOSE OF REDUCING DEATHS, INJURIES AND TOTAL ACCIDENTS OCCURRING ON THE STATE'S HIGHWAYS.

TARGETED ACCOMPLISHMENTS:

All actions undertaken under this goal should result in an average annual reduction of 1,500 accidents occurring at identified high accident locations on the state highway system, resulting in annual reductions in accident costs of \$80 million.

STRATEGIES FOR ACCOMPLISHING THE SAFETY GOAL:

A. SAFETY CAPITAL PROJECTS

1. In accordance with its Highway Safety Improvement Program (HSIP), the Department will:
 - a. Conduct Highway Safety Investigation (HSI's) at all locations shown on the approved annual Final Regional work Program (FRWP). As a minimum, all approved FRWP's should include a number of PIL locations equal to 20 percent of the latest PIL list. Furthermore, priority should be given to the highest ranking PIL locations at which HSI's have not been undertaken within the previous five years.
 - b. Design and construct safety improvements within five years for those completed Highway Safety Investigations on the FRWP that recommend a cost-effective safety capital improvement.
2. Design and construct cost-effective safety capital projects from non-FRWP sources.

B. CAPITAL PROGRAM SAFETY ENHANCEMENTS

1. For its non-safety specific capital projects (pavement, bridge, capacity, etc.), the Department will:
 - a. Consider safety in project selection and in the establishment of project limits.
 - b. Conduct safety evaluations for all High Accident Locations (HAL's)¹ on all appropriate capital projects in conformance with existing Department procedures.
 - c. Design and construct safety improvements for all HAL's studied and judged amenable to cost-effective treatment.

C. NON-CAPITAL SAFETY IMPROVEMENT

1. In accordance with its HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP), the Department will utilize its maintenance forces to implement low cost accident countermeasures such as signs, delineation and other improvements at identified High Accident Locations.

PERFORMANCE MEASURES:

¹High Accident Locations (HAL's) are those sites experiencing above average accident rates, and include Priority Investigation Locations (PIL's) and Safety Deficient Locations (SDL's).

A. SAFETY CAPITAL PROJECTS

1. Number of locations on FRWP.
2. Number of FRWP locations investigated.
3. Number of safety capital project recommendations, from the FRWP and other sources, implemented.
4. Number of severe and total accidents projected to be reduced as a result of safety capital projects.

B. CAPITAL PROGRAM SAFETY ENHANCEMENTS

1. Number of HAL accidents occurring in appropriate capital projects which are studied.
2. Number of treated HAL accidents occurring in capital projects.
3. Number of severe and total accidents projected to be reduced as a result of HAL's treated.

C. NON-CAPITAL SAFETY IMPROVEMENTS

1. Number of HSIP non-capital project safety improvements recommended and implemented.
2. Number of severe and total accidents projected to be reduced as a result on non-capital HSIP safety improvements.

PROJECT SELECTION CRITERIA

- A. Projects expected to cost-effectively address and treat High Accident Locations (HAL's).
- B. Projects expected to reduce severe accidents (those involving deaths and injuries) at the lowest possible cost.
- C. Projects which, although their main objective may not be solely safety, are expected to reduce accident experience or potential because accident countermeasures have been engineered into them.

21st CENTURY GOAL
for
MOBILITY GOAL

GOAL: TO MOVE PEOPLE AND GOODS CONVENIENTLY, RELIABLY, SAFELY, AT A REASONABLE COST, AND IN AN ACCEPTABLE TRAVEL TIME ON THE STATE TRANSPORTATION SYSTEM BY IMPLEMENTING MOBILITY PROJECTS THAT ARE COST EFFECTIVE, ACCOMMODATE THE VARIOUS INTER-DEPENDENT MODES, AND ARE COMPATIBLE WITH AND ENHANCE ECONOMIC DEVELOPMENT, THE COMMUNITY, AND THE ENVIRONMENT.

Goal achievement will be evaluated by service and performance objective measures. Service objectives prescribe specific operational service expected from either the transportation system or programmed projects based on previous service experience. Performance objectives are not prescriptive because previous service experience is not sufficiently complete. They will require subsequent data analysis to gain service experience. Preference should be given to projects on the Congestion Management System (CMS) network unless otherwise specified, although treatment of other route/locations should not be precluded. Mobility projects shall include, but not be limited to Transportation System Management (TSM), Travel Demand Management (TDM), Intelligent Transportation Systems (ITS), transit enhancement and selected linear capacity strategies.

SERVICE OBJECTIVES:

1. Reduce the growth of daily recurring person hours of delay (PHD) by 10 percent by the end of the first five years of the program period and by additional reductions within 20 years as the projects are fully implemented. **Measure:** Person-Hours of Delay and Person-Hours of Delay per centerline mile on the CMS network.
2. Reduce the growth of daily non-recurring person hours of delay (PHD) by 10 percent by the end of the first five years of the program period and by additional reductions within 20 years as the projects are fully implemented. **Measure:** Person-Hours of Delay and Person-Hours of Delay per centerline mile on the CMS network.
3. Reduce the growth of daily ton hours of delay (THD) by 10 percent by the end of the first five years of the program period and by additional reductions within 20 years as the projects are fully implemented. **Measure:** Ton-Hours of Delay and Ton-Hours of Delay per centerline mile on the CMS network.
4. Program highly cost effective mobility projects that provide a network reduction in daily PHD/\$M in the opening year of the project year of at least 35, but in Regions 8, 10, and 11 provide a reduction in daily PHD/\$M of at least 75. **Measure:** PHD/\$M

PERFORMANCE OBJECTIVES:

5. Program at least \$750,000 per year/per in Regions 8, 10, and 11 for low cost TDM initiatives, including public outreach and education, to promote the reduction in single occupant vehicle travel during peak hours. Program at least \$750,000 per year/per in the remainder of the Regions for low cost TDM initiatives. **Measure:** percent increase in peak hours average vehicle occupancy and percent reduction in growth of peak hours vehicle miles of travel within the first five years of the program period.
6. Identify the ten worst congested spot locations in each region where peak hours recurring queued conditions (LOS E or worse) can be addressed with relatively low cost short term non-linear strategies

(such as traffic signal coordination, improved signal timing, and minor intersection improvements) to improve operating efficiency. Program projects to eliminate the spot location problems. **Measures:** Number of spot locations eliminated and PHD and THD reductions by end of the 5-year program period.

7. For metropolitan urban areas greater than 200,000 in population establish, within the CMS, a select network of coordinated facilities dedicated (full or part-time) to improving critical mobility needs by improving the operation of traffic through ITS, dedicated lanes, and/or other mobility strategies. Within two years identify the network and develop a traffic operation strategic plan. Within the first five years of the program period, begin plan execution. **Measures:** Number of dedicated network miles to be functional by the end of the first five years of the program period, and PHD and THD reduction per network centerline mile.
8. Promote the connectivity of the designated National Highway System (NHS) routes to the non-highway transportation modes and to highways at the State's international border crossings by programming projects that improve the total door-to-door travel time of persons and goods. **Measures:** Reduction in daily person and ton travel time per NHS network centerline mile by the end of the first five years of the program period.
9. Increase bicycle and pedestrian transportation by programming projects to implement approved bicycle/pedestrian plans. Focus projects in congested corridors where the highest potential usage exists during peak hours by a combination of: 1) integrating bicycle and pedestrian facilities, including operational and safety enhancements, into both highway and transit projects and programs, and 2) providing 'stand alone' initiatives, including public outreach and education and improving connections to major activity centers and public transportation facilities. **Measures:** New miles of on-street bicycle facilities, quantity of new or upgraded sidewalks and crosswalks, miles of multi-use paths, number of bicycle/pedestrian accessible transit facilities and activity centers, and increase in bicycle and pedestrian usage by the end of the program period.
10. Reduce congestion, accidents, and long-term infrastructure costs on state arterials by aggressively pursuing arterial management techniques through outreach and education services to, and direct collaboration with, local governments. Such strategies include effective and complimentary transportation and land-use management planning techniques, and the incorporation of access management "betterments" in NYSDOT projects. Program at least \$1.00 million per year statewide, exclusive of transportation betterments for arterial management initiatives, including outreach and education. **Measure:** Number of corridors where arterial management techniques are to be pursued within the program period and PHD and THD benefits where applicable.
11. Pursue the refinement and reliability of the Service and Performance Objectives and measures and enhancements to the CMS' current delay and travel demand modeling tools, including model calibration, for implementation by SFY 1998/99. Implementation is critical to this mobility effort.

MOBILITY GOAL NARRATIVE

Introduction

It is the policy of the New York State Department of Transportation that the Regions continue to focus on cost effective mobility and congestion management projects to reduce congestion. The Mobility Goal has been revised to include additional and more specific Objectives and target accomplishments to better track progress and provide more focused attention where and when appropriate.

The revised Goal should be reviewed before proceeding with the rest of this narrative to facilitate the understanding of the changes and what evaluation criteria will be used. While the revised Mobility Goal is noticeably refined, it should be noted that the basic data requirements (on the required Charts) will not change all that much.

Revised Mobility Goal Background

The Mobility Goal deals with the Department's specific five-year, short range program and its contribution to the Corporate Mobility Goal. It is focused on the transportation system for which the Department is responsible.

Of the issues identified in revising the Goal, the most fundamental and critical issue is the credibility of the data bases and modeling forecasting tools in establishing the extent of the mobility problems, being able to measure and predict the effects/benefits of the program, and being able to establish reasonable target goals.

To address this issue, the revised Goal differentiates among the Objectives and structures a concept that includes Service Objectives and Performance Objectives. The Service Objectives prescribe specific expectations based on previous experience and focus on the total area-wide mobility perspective. Performance Objectives are more focused on specific elements of the transportation network, but lack of previous service experience prevents prescriptive-specific expectations. The establishment of Service and Performance Objectives and measures will allow the Department to build off the previous Mobility Goal and available information to set some targets and thresholds. At the same time, it will provide for measuring the affects of the newer mobility initiatives and allow the flexibility for the Objectives to evolve as the measures and various modeling tools are enhanced. The revised Goal Objectives build off the excellent early effort in the development of the Congestion Management System (CMS). Its modeling tools are available to estimate recurring and non-recurring delay (in terms of both VHD and PHD), ton hours of delay, and user costs for the entire State highway system (with the exception of the Thruway).

The wide variety of proposed Goal Objectives provides all Regions with the ability to focus on their unique mobility problems. It gives the flexibility to be innovative in the planning and programming of corrective solutions. Obviously, "one size does not fit all" and each Region will need to tailor a specific agenda that best fits its conditions and needs.

While the previous Mobility Goal focused on vehicle hours of delay as its core measure, the revised Goal uses person hours of delay (PHD), which better addresses automobiles, high occupancy vehicles, transit, bicycles/pedestrians, and intermodal connections. It also uses ton hours of delay to address goods movements.

The Department's CMS Model directly provides PHD for use in preparing the Program Update Charts and, in cases where the model is not used, County level average vehicle occupancy rates are available to use in the conversion from VHD. For projects where transit, carpool, or HOV occupancy rates are available, they should be used instead of the default values.

While the focus of the revised Goal remains the State highway system network, the Goal does not specifically limit projects to the state system because there may be circumstances where off-state system transportation facilities play a critical role in the Region's mobility efforts and, therefore, should not be excluded. Preference should be given to projects on the CMS network, but, to the extent possible, the Regions should identify and take credit for all benefits from its projects.

Mobility projects - include, but are not limited to: Transportation System Management (TSM), Travel Demand Management (TDM), Intelligent Transportation Systems (ITS) - a subset of TSM, transit enhancements - a subset of TDM, and selected linear capacity strategies. A sample listing of project strategies is provided in Appendix 4. As with the previous Update, this year we are asking the Regions to complete a Chart with information on: the number of miles of incident management or other ITS projects, projects that improve connectivity to non-highway transportation modes and to our international borders, new miles of on-street bicycle facilities, projects where Arterial Management strategies are being pursued, and projects that invest Title 23 Federal-aid funds in transit enhancements.

TSM/TDM - It is important to stress that flexibility and imagination should be used in project and program development to identify the most cost-effective strategies to address the mobility needs and accommodate the various inter-dependent modes. Management, operations, and preservation strategies should be emphasized as interim measures, as a part of the solution, or as the total solution where appropriate.

Regions 8, 10, and 11 should include in their narratives a discussion of the progress and continued funding of their TDM initiatives to increase vehicle occupancy in the peak periods. The Department has taken steps to institutionalize TDM so that these proposed strategies receive necessary and timely approvals. Upstate Regions are again urged to implement TDM initiatives appropriate to their situation.

Many improvements go well beyond the traditional capital program development process. Further, funding for many of these solutions (such as ITS operations, towing services, etc.) may require mostly operation funds, and some solutions may be only partially eligible for state or federal funds. This will require developing new or improved partnerships with the MPOs, other transportation agencies, transit operators, local governments, and the business community. Regions must undertake this effort as a priority through executive management commitment to form these partnerships along with concerted efforts by Regional staff to propose innovative congestion relief strategies. The year's effort will again ask for the accounting for TSM and TDM operating costs. PPMIS includes an operational phase code to capture these costs.

While the revised Goal includes both recurring and non-recurring delay, short duration TSM and TDM measures, such as for construction site maintenance and protection of traffic cannot be accounted for in the Goal because they are considered temporary. However, if the measures remain in place after the construction is completed and they remain effective in delay reduction, then PHD recurring delay reduction credit can be taken.

ITS Initiatives - To address the magnitude of congestion in New York State, we must be more innovative in programming ITS initiatives aimed at cost-effectively maximizing the carrying capacity of our existing arterials and expressways. For Goal Objective 7, each Region should include in its narrative the extent to which cost-effective ITS/traffic operations projects have been included in its program as an alternative/adjunct to traditional projects for addressing capacity/mobility needs and promoting effective operations of the existing transportation system. This should include the status in developing a Regional ITS Strategic Plan, programming priority projects identified in the Plan, and the

main-streaming of ITS/traffic operations in traditional projects and programs. The Region should also include barriers that impeded progressing this activity. The appropriate Chart instructions explain how to account for such improvements for each listed project, if appropriate.

Transit Enhancements - Appendix 4 specifically lists transit enhancement improvements because they are effective low cost solutions that help make transit service more attractive and maintain the roadway's function as a multi-mode facility. The appropriate Chart instructions explain how to account for such improvements in for each listed project, if appropriate.

Linear capacity projects - There are cases where these remain the solution of choice. Selected linear capacity projects must be highly cost effective and must be justified as "the solution of last resort." We cannot afford to spend funds on projects which do not address significant delay problems, or for which the cost is disproportionally high. When using Federal Funds in air quality non-attainment areas, TDM and TSM/ITS alternatives must be implemented to compliment, or be in lieu of, linear capacity projects. Where linear capacity solutions are the most feasible solutions, they should be consistent with Regional Mobility Plans, MPO Long-Range Plans and land-use and development plans. In addition, for those Transportation Management Areas that are air quality non-attainment areas, federally-funded projects that provide a significant capacity increase for Single Occupant Vehicles (SOV's) cannot be advanced unless there is a Congestion Management System (the process) in place and the projects result from that CMS.

Public/Private financing of mobility improvements - Innovative financing techniques, such as cost-sharing plans, negotiated agreements, transportation development districts, and property donations should continue to be encouraged to leverage traditional resources in meeting the Mobility Goal.

Arterial Management - is a way to address congestion and maintain the integrity of the State arterial system. Applications in corridor planning, project scoping, development mitigation, and project design are most appropriate in high-growth corridors along State uncontrolled-access arterials. This approach stresses a cooperative relationship with local governments, not only on financing, but also to implement access controls through land-use ordinances. Appendix 3 provides a list of examples of Arterial Management techniques.

Finally, while the revised Mobility Goal statement references compatibility with economic development, the community, and the environment, this compatibility is implicit within the project development process no matter what the Goal and, thus, would be best handled on an individual project basis.

Explanation of Revised Goal Changes

Goal achievement will be evaluated by Service and Performance Objective measures. Preference should be given to projects on the Congestion Management System (CMS) network unless otherwise specified, although treatment of other routes/locations should not be precluded. Mobility projects should include, but not be limited to, Transportation System Management (TSM), Travel Demand Management (TDM), Intelligent Transportation Systems (ITS), transit enhancement and selected linear capacity strategies, where appropriate.

Service Objectives

As described earlier, the Service Objectives prescribe specific operational service, based on previous experience, and focus on a total area wide mobility perspective. They also provide for measuring the affects of the newer mobility initiatives and for allowing the flexibility for the Objectives to evolve as measures and various modeling tools are enhanced. The following is a brief explanation of the reasons for the changes in the Objectives:

1. **“Reduce the growth of daily recurring person hours of delay..”** There are separate Objectives for recurring delay and incident (or non-recurring) delay because each has separate and distinct characteristics. Recurring delay is that delay that happens every day (due to such things as excess demand and capacity restrictions) and, hence, is more predictable. The evaluation measure is person hours of delay (PHD). Analysis data for this Objective can be obtained from either CMS modeling tools or project-specific sources. While PHD is a useful statistic for measuring congestion, it is difficult for the public to relate to. Therefore, the rate, PHD per centerline mile on the CMS network has been included to make delay more understandable.

The target of 10% reduction by the end of the first five years of our program period was retained from the previous Mobility Goal. This figure is intended to represent the projected results at the end of the five year period. Thus, projects scheduled to be implemented after the first five years should not be included in measuring achievement of the 10% target. The identification of PHD at the 20-year horizon is intended to capture benefits of the full implementation of the projects. The PHD statistics should be determined for the current year and for both with and without the program for the 5- and 20-year horizons.

2. **“Reduce the growth of daily non-recurring person hours of delay...”** Non-recurring delay is the result of incidents and is not repetitive or predictable. It accounts for 40% of the total urban delay on average and is usually caused by vehicle crashes, highway maintenance and construction maintenance-and-protection-of-traffic actions, special events, and law enforcement activities that affect normal traffic operations. This Objective focuses attention on the incident management (for example surveillance and towing services) and incident reduction (for example geometric and safety improvements) portion of non-recurring delay. It does not include maintenance-and-protection-of-traffic strategies for construction projects unless those strategies remain in place when the construction is completed. The rationale behind the statistics and the specific targets are the same as for Objective 1. Incident delay and incident reduction strategy benefits should be estimated using the CMS Model’s Strategy Analysis module and data from project-specific sources should be included, as appropriate. The PHD statistics should be determined for the current year and for both with and without the program for the 5- and 20- year horizons.
3. **“Reduce the growth of daily ton hours of delay (THD)...”** This Objective was added in recognition of the value of goods (or freight) mobility and to focus attention on delay of truck goods movement. It will allow the Department to begin to identify and focus in on the critical corridors for enhancing goods movement. Ton hours of delay data can be obtained from the CMS modeling tools or on a project basis using the percent trucks, the average tonnage per truck, and the vehicle hours of delay. The rationale behind the specific targets is the same as for Objective 1. Total recurring and non-recurring THD should be determined for the current year and for both with and without the program for the 5- and 20- year horizons.
4. **“Program highly cost effective mobility projects that provide a network reduction...”** Cost effectiveness is retained from the previous GOP Goal and the only modification was conversion to person hours of delay. The previous VHD-based targets “...(DAILY VHD/\$M IN PROJECT YEAR OF AT LEAST 25, BUT IN REGIONS 8, 10, AND 11 DAILY VHD/\$M OF AT LEAST 50)” were converted to PHDs (35 and 75, respectively) using CMS data for average daily vehicle occupancies. Thus, the targets are effectively unchanged. The value should be determined for the opening year for each programmed project and include the total of recurring and non-recurring delay. While each project should strive to achieve the target, emphasis should be placed on the program’s overall value.

Performance Objectives

As described earlier, the Performance Objectives are focused on specific elements of the transportation network, but because of the lack of previous service experience they are not as prescriptive as the Service Objectives. The Performance Objectives and measures allow for focusing on specific initiatives and provide for measuring the benefits while allowing the flexibility for the Objectives to evolve as the measures and various modeling tools are enhanced.

5. **“Program at least \$750,000 per year ... for low cost TDM initiatives...”** This is essentially the same as the previous Goal Objective with the exceptions of an increase in the dollar targets and an emphasis on public outreach and education. The focus of the Objective is still on downstate congestion, but TDM efforts to address the upstate congestion are also appropriate. This Objective is directed at the overall TDM efforts of the Regions with the recognition that specific cause-and-effect benefits in many cases may be difficult to determine and/or segregate out. Specific evaluation measures, however, are needed to measure the benefits of the TDM initiatives. The evaluation measures, peak hours average vehicle occupancy and vehicle miles of travel within the Program Update period, are regionally based and should be included, if available.
6. **“Identify the ten worst spot locations ...”** This Objective focuses attention on locations where peak hours recurring queued congestion can be addressed with low cost, highly cost-effective strategies. (This would be analogous to Traffic Engineering and Safety’s Priority Investigation Locations [PIL] program.) The focus should be on operational or geometric improvements on arterial facilities, but improvements to higher level facilities should not be precluded. The “top ten” listing should be updated annually and the narrative should include identification and a brief summary discussion of the projects and their location. As these projects should have a relatively short development phase, it is presumed that they would be implemented within the first five years of your program. The PHD and THD statistics should be determined for the current year and for both with and without the project at the end of the five-year period. In selecting projects, if all else is equal, preference should be given to a project that positively impacts transit operations.
7. **“...select network of coordinated facilities dedicated (full or part-time) to improving critical mobility needs...”** This Objective focuses on controlled access facilities in the larger urban areas that the Region and the MPO consider key components in improving area wide mobility. The selected network should be viewed as a subset of the CMS network, should include at least part of the ITS Strategic Plan network, and be limited to a relatively small number of facilities. The initial and critical component of this Objective is the identification of the network and the development of a traffic operation strategic plan to put this initiative into place. The term “functional” in the measure refers to strategies in operation during the Program Update period. The PHD (for recurring and non-recurring delay) and the THD statistics should be determined for all impacted facilities, even those beyond the select network. The measures should be determined for the current year and for both with and without the program for the 5- and 20- year horizons. The narrative should include identification of the network and miles to be functional.
8. **“Promote the connectivity of the designated National Highway System...”** This Objective focuses attention on the connectivity of NHS routes to intermodal facilities (e.g., transit stations, airports and ferry terminals), and to international border crossings as intended by the ISTEA. The projects should be directed at improving the ease of transfer at the intermodal facility or the ease of travel through the border crossing. The reduction in daily person and ton travel time should come from estimates for the

specific projects and be determined for the current year and for both with and without the projects for the 5- and 20-year horizons.

9. **“Increase bicycle and pedestrian transportation...”** This Objective deals with the use of bicycle and pedestrian modes to help address peak hours congestion. The effort should focus in congested areas where there is the highest potential benefit, but could include projects out side the peak hours as long as the projects result in the improvement of walking and bicycling facilities or help provide a substitution for motor vehicle travel, such as constructing paths to provide access to a recreational area as an alternative to auto travel to get there. This initiative is separate from the purely recreational aspects of bicycle and pedestrian usage. As with TDM and TSM strategies, a strong public education and outreach effort is important to “sell” bicycle and pedestrian transportation to our customers. The most important evaluation measures are data on bicycle and pedestrian usage on a project-by-project basis. Initially, that data may have to be obtained from direct field measurements and other available means as existing background data and projection tools are generally not available. Periodic follow-up field data collection should be anticipated for project evaluation and growth projections. The measures should be determined for the current year and for both with and without the projects for the 5- and 20- year horizons, as applicable.
10. **“... aggressively pursuing arterial management techniques...”** This Objective is intended to focus on the state uncontrolled-access arterial system by addressing the coexisting functions of through-traffic and access needs of abutting properties. Traffic generated by development along a roadway demonstrably reduces safety, speed, and capacity. The development and application of transportation and land-use controls, through an arterial management effort, can reduce those impacts significantly. (See Appendix 3 for more details) The effort should begin by identifying potential growth corridors where this concept has potential benefits and to pursue collaborative efforts with local governments in those areas. All things being equal, preference should be given to those projects in the Program that are on transit system routes.

Access management “betterments” in the context of this Objective are defined as additional elements of a state project that normally would not have been included in the project, but are included because of their mutual benefits to the state owned facility and the local highway system.

The suggested \$1 million per year program should include items such as development of an arterial management plan, technical assistance to local governments, and outreach and educational efforts. A strong public education and outreach effort is important to “sell” the arterial management concept to our customers. The PHD and THD benefits should be calculated on a project-by-project basis to the extent possible and applicable. The Narrative should include an identification of the potential growth corridors and the extent to which collaborative efforts with local governments are being pursued.

11. **“Pursue the refinement and reliability of the Service and Performance ...”** As discussed earlier, the critical element of the iterative and evolving Mobility Goal update effort is the collection of data and ongoing development and refinement of the CMS modeling tools. Relative to each Region, addressing this Objective will require a concerted Region and Main Office effort to collect needed data in a CMS compatible format; apply appropriate quality control measures to assure data accuracy; and to develop, test and refine CMS strategy input values. Although there is no measure attached to this Objective, the success of the Region’s efforts will be the increased confidence we all have in the results obtained. The Region’s narrative should include a summary of improvement successes, problems, and suggestions for Department-wide improvements.